

Amendments to the Specification

Please amend the specification as follows:

The paragraph starting at page 1, line 9, and ending at page 1, line 20 has been amended as follows.

A recording apparatus having the functions of a printer, a copying machine, a facsimile apparatus, etc., or a recording apparatus used as the output apparatus of compound type electronic apparatus or a work station including a computer, a word processor, etc., has such a construction ~~as records~~ that can record an image on a recording material (recording medium) such as paper or a plastic thin sheet on the basis of image information. Such recording apparatuses can be grouped into ~~[[a]]~~ an ink jet type, a wire dot type, a thermal type, a laser beam type, etc., depending on ~~[[a]]~~ its recording method.

The paragraph starting at page 2 line 17, and ending at page 3, line 2 has been amended as follows.

Of the above-described recording apparatuses, the recording apparatus of the ink jet type (ink jet recording apparatus) using the serial scanning method effects recording by discharging ink from recording means (a recording head) to the recording material, and has the merits that the compactness of the recording means is easy to realize, and the apparatus can record highly definite images at a high speed, can record on plain paper without subjecting the paper to special treatment, is low in running cost, suffers little

from noise because it is of a non-impact type, and can easily record a color image by the use of inks of multiple colors.

The paragraph starting at page 4, line 26, and ending at page 5, line 11 has been amended as follows.

In the above-described example of the conventional art, however, the phase deviation between the motor, which is the drive source, and the carriage becomes great because the degree of freedom of the carriage with respect to the scanning direction thereof is made high, and as a result, the following problems arise:

- (1) ~~[[A]]~~ a reduction in response when the motor is started for the carriage scanning;
- (2) ~~[[The]]~~ the vibration of the carriage when the carriage is driven; and
- (3) ~~[[The]]~~ the deviation of the stopped position of the carriage.

The paragraph starting at page 5, line 12, and ending at page 5, line 21 has been amended as follows.

The above-mentioned problems (1) to (3) not only lower the stability of the operation of the carriage, but also cause ~~a reduction~~ an increase in the total recording time (reduces throughput) because it becomes necessary to lower the scanning speed of the carriage in order to stabilize the operation of the carriage. Particularly, this is not ~~unsuitable~~ suitable for the higher speed of ~~the printer~~ printers in recent years, and leads to a

construction in which the compatibility of the quality of recorded images ~~image~~ and the recording speed is difficult.

The paragraph starting at page 9, line 16, and ending at page 9, line 19 has been amended as follows.

Fig. 4 shows a state in which ~~each part has~~ certain parts have been detached from the back of the carriage to show portions concerned in the drive transmission of the carriage portion shown in Fig. 3.

The paragraph starting at page 15, line 9, and ending at page 15, line 25 has been amended as follows.

The cleaning portion 6 is comprised of a cap 61 for suppressing the desiccation of the nozzle portion of the head cartridge 7, a pump 60 for sucking out the ink or the like in the nozzle portion to thereby effect cleaning with a surface (face)₁ in which the nozzle portion of the head cartridge 7 is formed₁ being hermetically sealed by the cap 61, a wiper 62 for cleaning the face of the head cartridge 7, and a pulse motor (PG motor) 69₁ which is a drive source. The cleaning portion 6 is installed outside an area in which the recording material is recorded, and is designed such that when the carriage 50 is moved to this area and the head cartridge 7 has arrived ~~[[at]]~~ there, the cap 61 is moved relative to the face and in operative association with such movement of the carriage, the wiper 62 abuts against the face, which is thus wiped.

The paragraph starting at page 16, line 15, and ending at page 17, line 3 has been amended as follows.

Fig. 4 shows a state in which ~~each part has~~ certain parts have been detached from the carriage 50 in order to show that portion of the carriage portion 5[[, which]] that is concerned in drive transmission. As previously described, a driving force from the carriage motor is transmitted to the carriage portion 5 through the timing belt 83, which is transmitting means therefor. The damper 71 is interposed between the belt holder 59, which is holding means firmly held with the timing belt 83 nipped, and the carriage portion 5, and the materials ~~themselves~~ of these components have the effect of attenuating a vibration of a frequency to be attenuated, of the vibrations from the drive source (hereinafter referred to as the "vibration attenuating effect"). The constructions of the damper 71, etc., will now be described.

The paragraph starting at page 18, line 11, and ending at page 19, line 1 has been amended as follows.

Lastly, the mounting member 72 is mounted on the belt holder 59. Pawl portions 59a are provided on the opposite sides of the belt holder 59 correspondingly to apertures 72a formed in the opposite sides of the mounting member 72 and therefore, at this time, the pawl portions 59a and the apertures [[72b]] 72a come into engagement with each other. In this state, there is provided a construction in which the damper 71 is sandwiched so as to be enclosed by the mounting member 72 and the belt holder 59 without any gap, and the mounting member 72 and the carriage 50 do not contact ~~with~~ each

other, but operate integrally with the belt holder 59. Therefore, vibrations produced from the carriage motor and the timing belt 83 are transmitted without fail to the carriage portion 5 through the damper 71, and the vibration attenuating effect can be sufficiently obtained.

The paragraph starting at page 19, line 10, and ending at page 19, line 26 has been amended as follows.

As described above, in the construction wherein the driving force from the drive source is transmitted to the carriage 50 through the damper 71, the damper 71, which is a vibration attenuating member, is inserted onto the projected portion 50a of the carriage 50 and the damper 71 is mounted without any gap so as to be enclosed by the belt holder 59 and the mounting member 72, whereby the vibration attenuating effect can be provided by only the compressive force of the damper 71, and the degree of freedom is secured by only the compression allowance of the damper 71 and therefore, it is difficult for phase deviation to occur in the scanning direction of the carriage. Therefore, the response when the carriage 50 is started is good, and it is difficult for the deviation of the stopped position of the carriage 50 to occur.

The paragraph starting at page 20, line 11, and ending at page 20, line 20 has been amended as follows.

In the present embodiment, as shown in Fig. 5, the design gap “d” between the projected portion 50a of the carriage 50 and the belt holder 59 in the scanning direction of the carriage is made smaller than the thickness “t” of the damper 71. According to the

present embodiment, there is realized such a dimensional relation ~~as compresses~~ that the damper 71 is compressed in advance, and the oscillation of the carriage with respect to the scanning direction of the carriage can be suppressed more effectively.

The paragraph starting at page 20, line 25, and ending at page 21, line 1 has been amended as follows.

Fig. 6 shows ~~that~~ a portion of a carriage portion in the third embodiment of the present invention, which portion is concerned in drive transmission. Hatchings in Fig. 6 represent a ~~cross-section~~ cross-section.

The paragraph starting at page 21, line 2, and ending at page 21, line 9 has been amended as follows.

As described in the first embodiment, in the connecting structure for the carriage portion and the timing belt, the driving force from the carriage motor is transmitted to the belt holder 59 through the timing belt 83, and is further transmitted from the belt holder 59 to the damper 71 and the carriage 50. In this form, a force, which rotates the belt holder 59, is applied during the start.

The paragraph starting at page 21, line 10, and ending at page 21, line 15 has been amended as follows.

As a countermeasure for this, as shown in Fig. 6, convex portions 50c are provided at two locations along the scanning direction of the carriage on each of two upper and lower sides of the projected portion 50a of the carriage 50, which convex portions are covered with the inner side of the damper 71.

The paragraph starting at page 21, line 16, and ending at page 22, line 5 has been amended as follows.

In the whole gap “d” between the belt holder 59 and the projected portion 50b of the carriage 50 in which the damper 71 intervenes, a minimum interval at the locations of the convex portions 50c is defined as “d2”, and the relation thereof with the thickness “t” of the damper 71 is defined as $d2 < t \leq d$. According to this dimensional relation, the damper 71 between the head holder 59 and the projected portion 50a of the carriage 50 is in meshing engagement with the convex portions 50c provided on the side of the projected portion 50a of the carriage 50 in the scanning direction of the carriage 50, and can therefore regulate the degree of freedom in the direction of rotation about the projected portion 50a. Also, since the whole gap “d” is not made small, a compressive force produced during assembly is small and the assembling property ~~does not become bad~~ is not diminished.